

U.S. Serial No. 09/938,940

Page 3

IN THE CLAIMS

14. (amended) A chemically modified mutant enzyme with one or more amino acid residues from said enzyme being replaced by cysteine residues, wherein the one or more amino acids replaced with a cysteine are in a subsite of the enzyme, the subsite being selected from the group consisting of S1, S1' and S2, and wherein at least some of the cysteine residues are modified by replacing thiol hydrogen in the cysteine residue with a thiol side chain, wherein the thiol side chain is selected from the group consisting of -SCH₂(*p*-CH₃-C₆H₄), -SCH₂(*p*-OCH₃-C₆H₄), -SCH₂(*p*-CF₃-C₆H₄), and -SCH₂(2,4-diNO₂-C₆H₃).

15. (original) A chemically modified mutant enzyme according to claim 14, wherein the enzyme is a protease.

16. (original) A chemically modified mutant enzyme according to claim 15, wherein the protease is *Bacillus lentus* subtilisin.

17. (original) A chemically modified mutant enzyme according to claim 14, wherein the amino acid replaced with a cysteine is an amino acid selected from the group consisting of asparagine, leucine, and serine.

Claims 18 and 19 (canceled)

20. (original) A chemically modified mutant enzyme according to claim 14, wherein the thiol side chain is -SCH₂(*p*-CH₃-C₆H₄).

21. (original) A chemically modified mutant enzyme according to claim 14, wherein the thiol side chain -SCH₂(*p*-OCH₃-C₆H₄).

22. (original) A chemically modified mutant enzyme according to claim 14, wherein the thiol side chain -SCH₂(*p*-CF₃-C₆H₄).

23. (original) A chemically modified mutant enzyme according to claim 14, wherein the thiol side chain -SCH₂(2,4-diNO₂-C₆H₃).

24. (previously added) A detergent additive comprising the chemically modified mutant enzyme of claim 14.

35. (previously added) A feed additive comprising the chemically modified mutant enzyme of claim 14.